Wyoming Landscape Conservation Initiative
Preliminary Science Plan

Goal
The goal of the Wyoming Landscape Conservation Initiative Science Plan is to provide information for management decisions associated with fish and wildlife habitat enhancement and conservation in Southwest Wyoming, and to complement and facilitate required reclamation and mitigation associated with responsible energy development. The strength of this initiative is the ability to draw expertise from numerous agencies to help support the critical land management decisions for the Green River Basin.

Framework of the Science Plan:

- Identification and Collection of Data
  - Existing ground and remotely-sensed data will be combined with new surveys to sample the distribution of species, assess aquatic and terrestrial habitat conditions, identify unique ecological and crucial habitats, and assess priority species and habitat status. These data will be used to develop specific management objectives and to guide conservation priorities and activities. Long-term data collection objectives will be identified to ensure management needs are addressed;
  - Identification of unique and crucial aquatic and terrestrial habitats to assess priority conservation targets and to implement conservation actions;
  - Data from private lands will be sought to preclude gaps for landscape analyses as a result of land ownership. These data will be pursued via private land assurances (for example, Candidate Conservation Agreements with Assurances);
  - A geographic and geospatial database will be developed to document baseline conditions and to identify gaps in data and information. The database will include information on the biologic, hydrologic, and geologic resources integrated with data reflecting anthropogenic activities, as well as other data contributed by federal and state resource management agencies. The database will have uniform data standards and storage to ensure all information collected can be shared among partners. This effort will be coordinated with the data and information management strategy; and
  - Develop a full understanding of the energy resource potential (i.e. natural gas, coal, etc.) of the Green River Basin by incorporating existing and new information into an energy assessment that will describe existing development and help anticipate future development.

- Monitoring
  - Monitor key habitat components (for example, water quality, water flow, vegetative cover, composition and condition) to assure wildlife and habitat management objectives are being achieved.
  - Monitor short and long-term responses of wildlife to conservation efforts from this initiative, and where appropriate, required mitigation and reclamation for adaptive management.

- Work with industry and their representatives to share information to allow for adaptive, and where appropriate, cooperative management of reclamation activities within impacted areas.
- Use monitoring results to adjust mitigation, reclamation, and habitat conservation activities as necessary, and to promote consistency of required reclamation for fish and wildlife resources with the conservation actions identified through the process described above.
- Implement a long-term monitoring strategy to assess the effects of natural processes and human actions, as well as conservation action implementation. Data resulting from this monitoring program will contribute to adaptive management decisions.

• Research Strategy:
  - Research will be conducted where it is necessary to support management decisions for the conservation of wildlife and habitat, and the responsible development of energy resources. The power of this initiative is to be able to leverage research activities across numerous fields to provide the framework for land management decisions. Areas of potential research objectives include:
    - Quantification of wildlife and habitat responses to habitat management, and potentially reclamation activities, where monitoring actions indicate there may be concerns;
    - Identifying the distribution and habitat requirements of species for which there is little management data available;
    - Examining the cumulative impacts of all development activities on a landscape scale, and the wildlife response to these, and conservation actions at that level.